ARTIS LLC 2005-2006 Internship

Artis, LLC, located in downtown Salt Lake City, has an opening for a motivated undergraduate Computer Science, Computer Engineering, or Bio-Engineering student during the 2005-2006 school year. Artis has many interesting projects for interns.

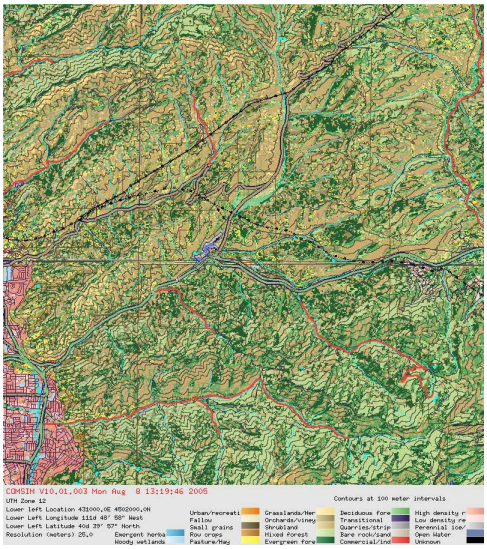
Smartmat

ARTIS developed SMARTMAT for the Centers for Disease Control to accurately count subjects walking across it thus helping activity researchers discover if their interventions are effective. Hundreds of pressure sensors provide a real-time outline of subject's footprints that are processed to count the subject's passing over the mat. ARTIS is constructing the third Smartmat generation currently being tested at Harvard University.

The student will help design and build the next generation Smartmat and improve its data collection and analysis programs. The student should be familiar with embedded systems programming, elementary image processing, and C and C++ programming.

Mentors: Dr. Jed Marti, Jim Shumway.

Geographic Information Systems & Simulation Analysis

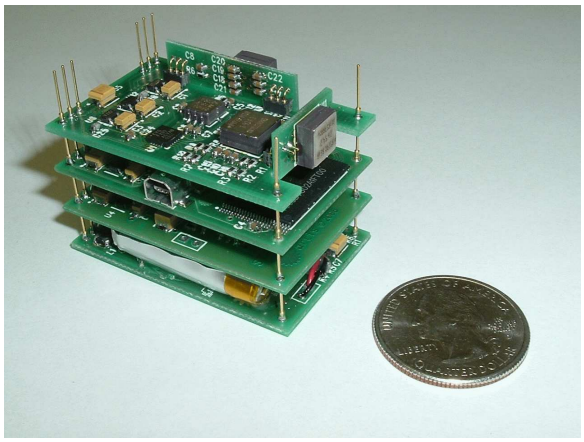


ARTIS provides simulation and analysis for various government clients. We are currently building agent based models for communications and healthy activity analysis based on our Pathways geographic information and discrete event modeling system.

The student will help design and implement next generation Agent Based Modeling systems relying on interactions with terrain and infrastructure. The student should be familiar with digital geographic information, discrete event simulation, graphical user interface design, and elementary statistics.

Mentors: Dr. Jed Marti, Randall Fields

Stackable Sensors

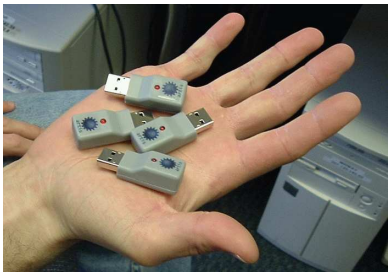


ARTIS is developing a low-power, long-endurance, multiple-sensor recording system. On top of file system with up to 512 megabytes of flash memory and time-of-day clock can be stacked any number of sensor and power modules.

The student will help design and implement a micro-controller operating system including a simple file system, I^2C bus interface, and interfaces to various sensors including accelerometers, rate gyroscopes, audio recorders, GPS, digital cameras, wireless interfaces, and displays. The student may also design and build their own sensor board.

The student should have experience with 8 bit micro-controllers (C programming) and analog sensors of various sorts. Electronic circuit design and construction knowledge is a plus.
Mentors: Dr. Jed Marti, Elisa Hurwitz.

Motion Coupled Virtual Environments



Use of electronic display devices on ships, airplanes, and vehicles is increasing. Many users find that use in these moving environments leads to motion sickness. ARTIS is developing systems and software to alleviate these symptoms without drugs.

The student will help design and implement experiments to induce, and help prevent motion discomfort. ARTIS is constructing a test station in a small van. The student will help construct the equipment, program and maintain the computers and assist in initial data collection and analysis.

The student should have knowledge of Windows programming (C++); experience with Open GL and other Graphics systems is also a plus.
Mentors: Dr. Jed Marti, Jonathan Fairgrieve.

About Artis

Artis specializes in contract R&D and analysis services for health and security markets. We provide innovative solutions to long-ingrained problems in the areas of motion measurement and human computer interfaces. Our analysis services focus on defining the military utility of future technologies including distributed sensor networks and mobile robotics systems.

Our clients include: Defense Advanced Research Projects Agency (DARPA), U.S. Army Night Vision Laboratories (NVESD), National Institutes of Health (NIH), Centers for Disease Control (CDC), Army Research Laboratories (ARL), U.S. Navy, and The RAND Corporation.

The student will have access to all Salt Lake City facilities including:

1. A 14 processor super computer with a terrabyte of on-line storage and various workstations and laptops.
2. A machine shop with a Pace TF1500 surface mount rework station and electronic construction area with miscellaneous test equipment.
3. Solid Works CAD system and Mentor Graphics ECAD.

Past interns have worked with embedded systems and computer graphics and participated in briefings to government sponsors.